

# **EXHIBIT 1**

**to T-Mobile's Responsive Claim Construction Brief**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

KAIFI LLC,

Plaintiff,

v.

T-MOBILE US, INC. and  
T-MOBILE USA, INC.,

Defendants.

**CASE NO. 2:20-CV-281-JRG**

**JURY TRIAL DEMANDED**

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**DECLARATION OF PETER RYSAVY**

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**TABLE OF EXHIBITS**

<b>Document</b>	<b>Description</b>
Exhibit 1	U.S. Patent No. 6,922,728 (July 26, 2005)
Exhibit 2	A. Mehrotra, GSM SYSTEM ENGINEERING (1997)
Exhibit 3	R. Steele et al., GSM, CDMAONE AND 3G SYSTEMS (2001)
Exhibit 4	Newton's Telecom Dictionary (16th ed. 2000)
Exhibit 5	IETF RFC 2002 – IP Mobility Support (Oct. 1996)
Exhibit 6	Claim Construction Order in <i>KAIFI LLC v. AT&amp;T Corp. et al.</i> , No. 2:19-cv-138 (E.D. Tex. Apr. 17, 2020)

I, Peter Rysavy, hereby declare as follows:

## **I. SUMMARY AND BACKGROUND**

1. I have been retained by Defendants T-Mobile US, Inc. and T-Mobile USA, Inc. (collectively, “T-Mobile”) as a technical expert to provide my independent opinions regarding certain technological issues pertaining to U.S. Patent No. 6,922,728 (“the ’728 patent”). My opinions and the bases and reasons for them are set forth in this declaration.<sup>1</sup>

2. I am being compensated for my time at my standard rate of \$450 per hour, plus reimbursement of expenses. I do not have a financial interest in this action or its outcome.

3. I make the following statements based on my own personal knowledge and, if called as a witness, I could and would testify to the following.

## **II. QUALIFICATIONS AND EXPERIENCE**

4. I graduated with BSEE and MSEE degrees from Stanford University in 1979, with my master’s degree emphasizing communications technologies.

5. From 1988 to 1993, I was vice president of engineering and technology at Traveling Software (later renamed LapLink), at which projects included LapLink, LapLink Wireless, and connectivity solutions for a wide variety of computing platforms. During this period, I was responsible for evaluating wireless communications technologies for use with the LapLink file transfer and synchronization product families. I also managed the development of a short-range wireless modem called LapLink Wireless that replaced a serial-data cable connection between computers. Prior to Traveling Software, I spent seven years at Fluke Corporation, where I worked on data-acquisition products and touch-screen technology.

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<sup>1</sup> My opinions expressed in this Declaration are based on the materials and information I have been provided and evaluated. I may supplement my opinions on a given topic in the future if new materials or information become available, including any expert declaration submitted by or on behalf of KAIFI.

6. I am now the president of the consulting firm Rysavy Research LLC and have worked as a consultant in the field of networking systems and wireless technology since 1993. As a consultant I specialize in wireless systems, including the wireline networking systems that support them. My work includes working with networking protocols at all layers of the protocol stack, including the TCP/IP family of protocols. One of my clients in 1994 was McCaw Cellular (which later became AT&T Wireless), the leading U.S. cellular company at the time. I did multiple projects for McCaw Cellular, helping me develop my expertise in networking technologies.

7. Beginning in 1994, I began teaching public courses, including courses that I taught at Portland State University, the University of California at Los Angeles, at conferences, and through my own organization. These courses included content about cellular networks, Wi-Fi and other wireless local area networks, Bluetooth, paging, and mobile-application architectures.

8. Past projects have included reports on the evolution of wireless networking technologies, evaluation of wireless technologies, strategic consultations, system design, articles, courses and webcasts, network performance measurement, test reports, and involvement in multiple patent litigation cases. My past and current clients include more than one hundred organizations.

9. I have written more than one hundred and ninety articles, reports, and papers, and have taught more than forty public courses and webcasts, on networking technologies, going back to 1994. I have also performed technical evaluations of many wireless networking technologies, including municipal/mesh Wi-Fi networks, Wi-Fi hotspot networks, and cellular-data services.

10. From 2000 to 2016, as part of my consulting practice, I was the executive director of the Portable Computer and Communications Association (PCCA), which was formally

incorporated in May of 1993, then operated as the Wireless Technology Association. The PCCA's mission was to promote the interoperability of wireless-data systems, and its initial work was to develop interfaces between computers and wireless modems.

11. In the more than twenty-five years of my consulting career, I have studied or worked with nearly every major wireless technology related to cellular networks and wireless networks.

12. With respect to technology related to that in the '728 patent, I was actively involved in wireless technology in the period before, during, and after the priority date of the patent. I have done multiple projects involving the integration of Wi-Fi and cellular networks. Some of my work in this technology is described in my 2020 report for 5G Americas, *Global 5G: Rise of a Transformational Technology* (<https://rysavyresearch.files.wordpress.com/2020/09/2020-09-global-5g-rise-of-a-transformational-technology.pdf>). In June 2012, I chaired a Wireless Technology Association workshop on cellular/Wi-Fi offload that addressed Wi-Fi offload architectures, client-side connection management, and policy-based control. In October, 2011, I wrote a report for Information Week titled *Convergence of 3G/4G and Wi-Fi* ([https://rysavyresearch.files.wordpress.com/2017/08/2011\\_10\\_3g\\_4g\\_wi-fi\\_convergence.pdf](https://rysavyresearch.files.wordpress.com/2017/08/2011_10_3g_4g_wi-fi_convergence.pdf)). In October 2010, I published a report titled, *Strategic Use of Wi - Fi in Mobile Broadband Networks* ([https://rysavyresearch.files.wordpress.com/2017/08/2010\\_10\\_strategic\\_wi-fi.pdf](https://rysavyresearch.files.wordpress.com/2017/08/2010_10_strategic_wi-fi.pdf)).

13. Further details on my background and work experience, along with a list of my publications and the cases in which I have given testimony, is contained in my *curriculum vitae*, which is attached as Appendix A.

### **III. MATERIALS CONSIDERED**

14. In addition to my experience in this field, the materials that I considered in forming the opinions set forth in this report include all documents and references cited in this Declaration, as well as the materials listed in Appendix B to this report.

### **IV. APPLIED LEGAL STANDARDS**

15. I am not a lawyer or legal expert, and I am not offering any opinions regarding the law. I have, however, been informed by counsel of the legal standards applicable to the issues that I have been asked to examine.

16. I have been informed by counsel that there are two types of claims: independent claims and dependent claims. I have been informed that an independent claim stands alone and includes only the limitations it recites. I have been informed that a dependent claim, on the other hand, is a claim that depends on another claim. I have been informed that dependent claims include all of the limitations stated in the dependent claim as well as any limitations included in the claim(s) from which it depends.

17. I have been informed that it is the role of the Court to determine the meaning of language of the claims. I further understand that the construction of the language of the claims is performed by viewing that language from the perspective of one of ordinary skill in the art as of the priority date of a patent.

18. I have been informed that, to properly understand the meaning of claim terms, one should consider the claim language itself in view of the patent specification (including the figures). For example, the patent specification may show that the inventor used words or terms in a manner inconsistent with what would otherwise be their plain and ordinary meaning.

19. I have been informed that language in a dependent claim may shed some light on the meaning of the terms in a claim from which it depends. I have been informed that claim interpretations that render some portion of the claim language superfluous are disfavored. For



example, one should presume that a dependent claim is necessarily narrower than the claim from which it depends.

20. I also have been informed that the prosecution history of the patent may also provide guidance in construing a claim term. For example, the prosecution history may show that the patent applicant might have limited the scope of the claims.

21. I have been informed that, secondary to the intrinsic evidence, extrinsic evidence may also be used to determine meaning of a term. I understand that extrinsic evidence may be used, for example, to help determine what a person of ordinary skill in the art (“POSA”) at the time of the invention would understand the claim term to mean. Extrinsic evidence may include, for example, dictionaries, technical treatises, journals, articles, or expert testimony.

#### **V. PERSON OF ORDINARY SKILL IN THE ART**

22. I have been asked to offer opinions regarding the knowledge and capabilities of a POSA around December 2001.<sup>2</sup> In my opinion, a POSA regarding the technology of the ’728 patent would be an individual who had a Master’s degree in electrical engineering or a similar discipline and a few years of experience related to wireless communications, such as cellular and/or Wi-Fi systems. To qualify as a POSA, an individual without a Master’s degree would possess additional years of work and practical experience. Similarly, an individual with a Ph.D. would require fewer years of work or practical experience.

23. As shown in my CV, based on my educational and employment background, I am qualified to provide opinions concerning what a POSA would have known and understood at the time of the ’728 patent. Indeed, with my education and employment, I would have been considered a POSA at that time.

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<sup>2</sup> On its face, the ’728 patent claims priority to Korean Patent Application No. 2001-34976, filed on June 20, 2001. My opinions herein would not change if the ’728 patent is determined to properly claim priority to the June 2001 Korean application, as opposed to its U.S. filing date in December 2001.

## VI. RELEVANT TECHNOLOGY AND PATENT BACKGROUND

### A. The Asserted Patent

24. The '728 patent is titled "Optimal Internet Network Connecting and Roaming System and Method Adapted for User Moving Outdoors or Indoors." According to the Abstract, it relates to a system and method of providing a communication service to a user moving between indoor and outdoor networks. '728 patent at Abstract. In the Background of the Invention, the '728 patent describes various "methods of connecting with the internet," such as external mobile communication networks (*i.e.*, cellular networks) and a local area network (LAN). *See* '728 patent at 1:36–45.

25. The stated idea of the '728 patent is to "allow[] a user to connect with the internet through an indoor wired LAN when a mobile data communication terminal is located indoors and allow[] the user to connect with the internet through . . . an outdoor wireless packet network when it is located outdoors." '728 patent at 2:18–25; *see also* '728 patent at 2:38–45 ("[W]hen a user is located indoors, a user's wireless internet terminal is connected with an indoor-wired LAN through wireless communication module. Alternatively, when the user is located outdoors, the user's wireless internet terminal is connected with an outdoor wireless internet network (a network which can be wirelessly connected with the internet) such as a wireless LAN network and a wireless packet network.").

26. The alleged benefit of the '728 patent is that "[b]etter communication quality with a lower cost is guaranteed to the user since the network connection can be switched in accordance with the location or movement of the user." '728 patent at 2:46–49. That is, because the cost of receiving packets through an "indoor network" is cheaper than receiving them through an "outdoor wireless internet network," the "user can continuously make the call with the recipient at a lower cost." '728 patent at 10:63–67; *see also* '728 patent at 2:26–28, 2:46–49, 12:15–17, 14:56–61.

27. To achieve the identified benefits, “[t]he present invention includes a location register for storing location information transmitted from the wireless internet terminal in order to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors.” ’728 patent at 3:9–13. The system will “switch network paths to provide the roaming service in accordance with the location information stored in the register.” ’728 patent at 3:13–15.

28. As described above, the ’728 patent describes a system that prefers connections with the indoor network, including due to their general higher quality and the lower cost associated with the use of the indoor network. *See* ’728 patent at 2:26–29, 2:46–51, 10:63–67, 12:24–29. For example, according to the ’728 patent, “[i]n the present invention, since the data communication quality of the indoor network is superior to that of the outdoor network, when the user moves indoors, the communication connection may be always and automatically switched from the outdoor network to the indoor network.” ’728 patent at 12:24–29.

## **B. Prosecution History**

29. The application that issued as the ’728 patent was filed on December 18, 2001. The application as filed contained 21 claims. Contemporaneous with filing the application, the applicant submitted an Information Disclosure Statement Identifying one reference: PCT/SE98/00536. On March 15, 2005, without any substantive office actions or amendments to the pending claims, the examiner of the U.S. Patent and Trademark Office issued a Notice of Allowance. The ’728 patent then issued on July 26, 2005, with 21 claims.

## **VII. OPINIONS**

30. I have reviewed the parties’ proposed constructions on which there is a dispute. It is my opinion that T-Mobile’s constructions are correct.

A. **“location information of the data communication terminal received through the indoor network” / “indoor location information of the data communication terminal received through the . . . outdoor wireless internet network” (claim 1)<sup>3</sup>**

	<b>T-Mobile Proposed Construction</b>	<b>KAIFI Proposed Construction</b>
“location information of the data communication terminal received through the indoor network”	indoor system ID information	“location information” should be construed as “information on a locational area or indoor system ID information or both.” <i>See</i> AT&T Case, Dkt. No. 104 at p. 36. The remainder of this term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.
“location information of the data communication terminal received through the . . . outdoor wireless internet network”	locational area	“location information” should be construed as “information on a locational area or indoor system ID information or both.” <i>See</i> AT&T Case, Dkt. No. 104 at p. 36. The remainder of this term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

31. Claim 1 of the ’728 patent requires “a location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network.”

32. I understand that the Court in the *AT&T* litigation construed “location information” (not the longer phrase at issue here) as “information on a locational area or indoor system ID information or both,” and that KAIFI and T-Mobile have agreed to that construction in this case. *See* Ex. 6 (AT&T Claim Construction Order) at 36. The Court in the *AT&T*

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<sup>3</sup> Attached as Appendix C is the text of the claims I understand are currently asserted by KAIFI in this case.

litigation *did not* construe the whole phrase “location information of the data communication terminal received through the indoor network or outdoor wireless internet network.” It is this phrase that is the subject of the parties’ dispute. Particularly, the issue is what is the meaning of “location information of the data communication terminal received through the indoor network” and “location information of the data communication terminal received through the . . . outdoor wireless internet network.”

33. In the context of claim 1, “location information” includes specific information at specific times, depending on the network to which a subscriber is connected. While the “location information” can be both locational area and indoor system ID information, the ’728 patent requires specific location information in specific situations.

34. Specifically, in the context of the ’728 patent, a POSA would understand that “location information of the data communication terminal received through the indoor network (*i.e.*, when connected via the claimed “indoor network”) is indoor system ID information, and that “location information of the data communication terminal received through . . . the outdoor wireless internet network” (*i.e.*, when connected via the claimed “outdoor wireless internet network”) is locational area.

35. The ’728 patent repeatedly describes when specific types of “location information” are required. For example, in the Summary of the Invention, the ’728 patent states: “When the data communication terminal is located outdoors, the location information is information on a locational area; and when it is located indoors, the location information is indoor system ID information.” ’728 patent at 3:48–51. In the Detailed Description of the Invention, the ’728 patent repeats this: “The location information stored in the location register 80 is information on a locational area when the data communication terminal is located outdoors. On the other hand, when the terminal is located indoors, it is indoor system ID information.” ’728 patent at 9:16–20.

36. This is necessary for the invention of the '728 patent to operate as intended. The "location information" of the '728 patent is stored in a location register "to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors." '728 patent at 3:9–13. Then, using this information, the system "switch[es] network paths to provide the roaming service in accordance with the location information stored in the location register." '728 patent at 3:13–15. As the specification explains, the "indoor system ID information" is "unique," which a POSA would understand allows the system to route communications to the data communication terminal when it is connected to an indoor network. *See* '728 patent at 8:47–55. For example, the patent explains that, when a user is connected to an indoor network, "information provided from the internet is transferred to the indoor gateway 100 in accordance with the user location information stored in the location register 80 without passing through the outdoor wireless LAN network." '728 patent at 11:64–12:1. "[W]hen the HA/FA location register 80 receives a signal requesting the transmission of a call incoming message or the voice data from the PSTN, the location register 80 transmits the call incoming message or voice data to the indoor gateway 100 in accordance with the user's location stored in the location register 80." '728 patent at 13:31–36. The claimed system would not be able to transmit the data to the indoor network in accordance with the stored location unless the "location information" in the location register includes at least the indoor system ID information. Likewise, when a user is connected to an outdoor wireless internet network, data is transferred to the device "in accordance with the location stored in the location register 80." *Id.* at 9:63–67.

37. In other words, the "location information" (whether indoor system ID information or locational area) is part of what the claimed system uses to route communications to the indoor network or outdoor wireless internet network. Thus, a POSA would understand that "location information of the data communication terminal received through the indoor network (*i.e.*, when connected via the claimed "indoor network") is indoor system ID information, and that "location

information of the data communication terminal received through . . . the outdoor wireless internet network” (*i.e.*, when connected via the claimed “outdoor wireless internet network”) is locational area.

**B. “location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network” (claim 1)**

T-Mobile Proposed Construction	KAIFI Proposed Construction
“location register external to the data communication terminal that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network”	<p>“location register” should be construed as “register that records the location of the data communication terminal”</p> <p>The remainder of this term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.</p>

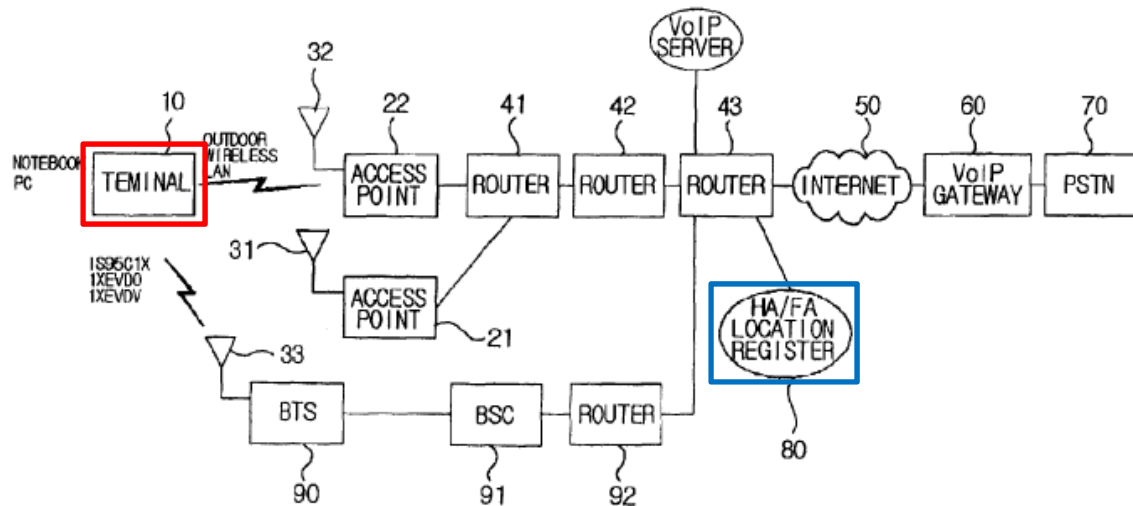
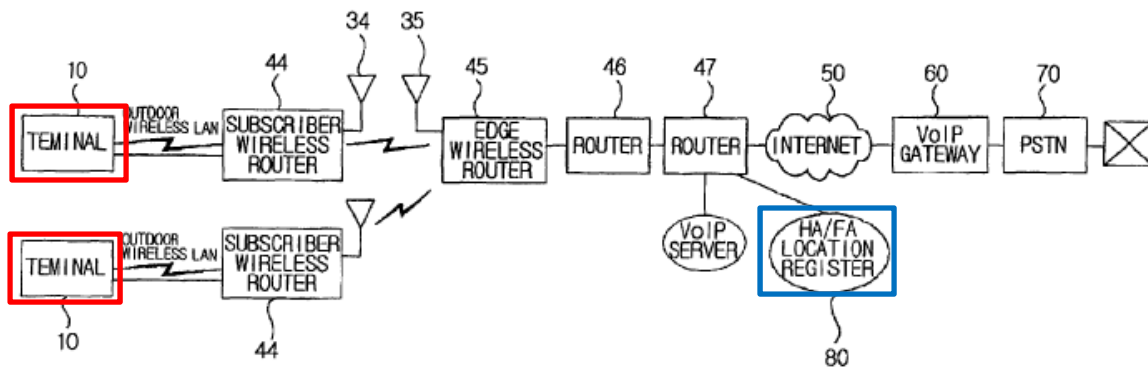
38. Claim 1 of the ’728 patent requires “a location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network.” I understand from the attorneys for T-Mobile that KAIFI contends that the claimed “location register” can be the data communication terminal. I disagree. The plain language of the claims and specification confirm that the location register is external to the data communication terminal.

39. The location register of the claims receives “location information *of the data communication terminal* . . . through the indoor network or outdoor wireless internet network.” In the context of the ’728 patent, it does not make sense that a data communication terminal receives location information about itself *through* the indoor network or outdoor wireless internet network, particularly because this is information the data communication terminal already has. For example, the ’728 patent explains that the PDA “registers its location into the location register,” confirming that the location is something already known to the data communication terminal. ’728 patent at 11:30–33.

40. The dependent claims further confirm that the claimed location register is external to the data communication terminal. For example, claim 4 states that “the data communication terminal informs the location register that the terminal is located indoors by registering its location into the location register using a mobile IP,” and that “the data communication terminal informs the location register that the terminal is located outdoors by storing locational area information in the location register.” If the data communication terminal were a location register, it would not be necessary for the data communication terminal to “inform[] the location register” that it is located indoors or outdoors.

41. The specification of the '728 patent likewise confirms that the claimed location register is external to the data communication terminal. Indeed, in *every* figure and example in the '728 patent, the location register is external to the data communication terminal. First, in Figures 1A and 1B, which are configurations of “an outdoor wireless LAN network,” “location register 80” (blue box) is separate from “data communication terminal 10” (red box). *See* '728 patent at 6:34–47 (“The outdoor wireless LAN network includes a data communication terminal 10; antennas 31, 32; access points 21, 22; a plurality of routers 41, 42, 43; and a location register 80.”), 6:47–53 (“The outdoor wireless LAN network includes a data communication terminal 10; antennas 34, 35; a subscriber wireless router 44; and edge wireless router 45; a router 46; and a location register 80.”).



*FIG. 1A**FIG. 1B*

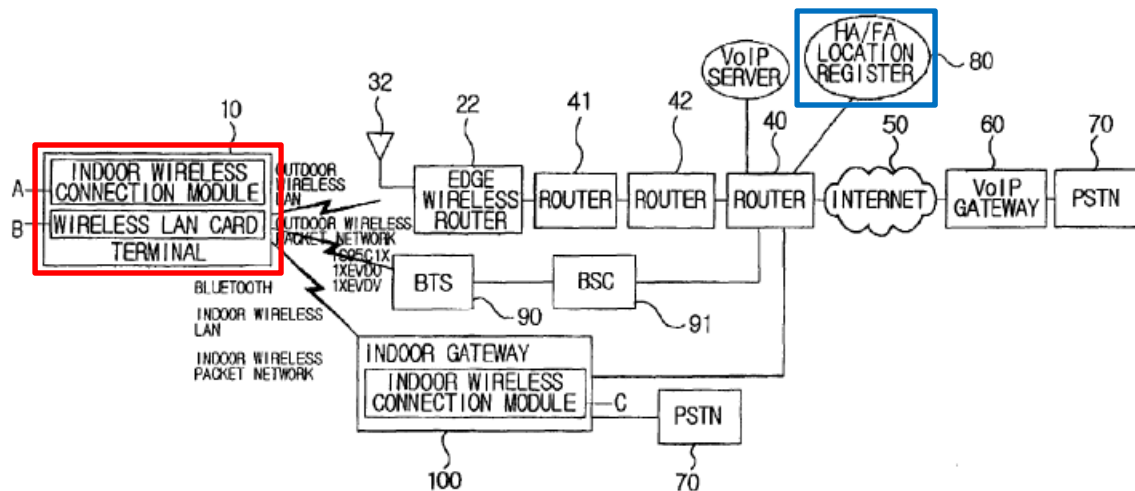
42. Figure 2 “show[s] the configuration of the optimal wireless internet network connecting and roaming system adapted for the user who moves indoors or outdoors according to the present invention.” ’728 patent at 8:32–35. As confirmed in Figure 2, “the system of the present invention” includes a location register external to the data communication terminal:

As shown in FIG. 2, the system of the present invention comprises of an outdoor wireless LAN network including the access point 22, the antenna 32 and the router 40 or the wireless packet network including the BTS 90, the BSC 91 and the router 40, as shown in FIG. 1; an indoor network including an indoor gateway

100; and an external network including the *location register 80*, the internet 50 including a plurality of internet servers, a VoIP gateway 60 and a PSTN.

'728 patent at 8:35–43 (emphasis added).

FIG. 2



43. I have not identified a single suggestion in the '728 patent that a data communication terminal serves as the location register. And this makes sense. The purpose of the location register is to “stor[e] location information transmitted from the wireless internet terminal in order to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors.” '728 patent at 3:9–13. A data communication terminal does not need to receive location information “to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors”; the data communication terminal is already aware of its location. Indeed, the '728 patent repeatedly confirms that the data communication terminal is already aware of its own location and sends the information to the location register. *See, e.g.*, '728 patent at 9:46–53, 11:30–33, 13:51–54.

44. Further, according to the '728 patent, the system “switch[es] network paths to provide the roaming service in accordance with the location information stored in the register.” *Id.* at 3:13–15. If a data communication terminal were the claimed location register (*i.e.*, if the

location register were not part of a service provider's system), the system would not be able to provide the roaming service "in accordance with the location information stored in the register." That is, the location information must be sent to a location register external to the data communication terminal (*i.e.*, in a provider's network) so the network can provide the claimed roaming service.

45. The term "location register" is well known in the art of wireless networking technology. At the time of the '728 patent, a POSA would have understood that location registers in wireless networks are centralized databases that contain information about subscribers and mobile devices.<sup>4</sup> For example, in 2G and 3G cellular systems (including in systems predating the '728 patent), a Home Location Register (HLR) was a database that contained information about subscribers and the services for which they have been provisioned.<sup>5</sup> The HLR provided this information to other entities within the networks for various purposes. The Visitor Location Register (VLR) was a database that contained temporary information about the subscribers currently in the serving area, when roaming from the coverage of the HLR.<sup>6</sup> In order to provide these services, both the HLR and VLR were implemented on fixed computers at a known networking address.

46. Consistent with the industry use of the term "location register," as explained above, the location register of the '728 patent contains information about data communication terminals and is implemented within a discrete node, as shown in all of the figures. This

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<sup>4</sup> See, e.g., Ex. 2 (GSM System Engineering) at 25, 54–55; Ex. 3 (GSM, cdmaOne and 3G Systems) at 54–61, 74, 424–25.

<sup>5</sup> See, e.g., Ex. 4 (Newton's Telecom Dictionary) at 406 ("A permanent SS7 database used in cellular networks, including AMPS (Advanced Mobile Phone System), GSM (Global System for Mobile Communications), and PCS. The HLR is located on the SCP (Signal Control Point) of the cellular provider of record, and is used to identify/verify a subscriber; it also contains subscriber data related to features and services.").

<sup>6</sup> See Ex. 4 (Newton's Telecom Dictionary) at 406.

function needs to be in a known networking location so that queries can be made to it, such as retrieving information about a subscriber. It would have made no sense to a POSA for a database that has information about data communication terminals to be one of the terminals. For instance, the specification states that “[t]he location register 80 confirms from the registration data that the location of the user has changed from the outdoors to the indoors,” ’728 patent at 11:48–50, which makes it clear that the location register is separate from the data communications terminal (*i.e.*, the user). Furthermore, as explained above, this operation would not be possible if the location register was within the data communication terminal.

47. Moreover, the patent discloses that the location register may also be a home agent or a foreign agent, and uses a mobile IPv4 or mobile IPv6 address system in order to store the data communication terminal location into the location register. *See* ’728 patent at 8:3–6. Just like location registers, home agents and foreign agents have well-defined and well-understood capabilities, and are implemented on non-moving computers, including on routers.<sup>7</sup> For example, the ’728 patent explains how the location of the terminal is registered with the location register using the mobile IP registration method. ’728 patent at 8:20–24. Mobile IP protocols use specific messages from a data communication terminal to a fixed node to update and register locations.<sup>8</sup> The notion of a data communication terminal registering its location using the mobile IP registration method, with a location register that is itself, makes no sense in this context.

48. A network would presumably have hundreds or thousands of data communication terminals. The location register contains location information about this multitude of terminals. A network design in which the data communication terminal was the location register would

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<sup>7</sup> *See* Ex. 5 (IETF RFC 2002) at 5 (defining “home agent” and “foreign agent”).

<sup>8</sup> *See, e.g.*, Ex. 5 (IETF RFC 2002) at 8, 12–14 (“When the mobile node is away from home, it registers its care-of-address with its home agent. Depending on its method of attachment, the mobile node will register either directly with its home agent, or through a foreign agent which forwards the registration to the home agent.”).

mean the network would consist of potentially thousands of databases with location information, which would be inefficient and unworkable.

49. Thus, in my opinion, a POSA would understand that “location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network” means “location register external to the data communication terminal that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network.”

**C. “indoor network” (claims 1, 5, 12)**

T-Mobile Proposed Construction	KAIFI Proposed Construction
Plain and ordinary meaning	“a network that broadcasts system ID information able to be received within an interior of a structure”

50. The claims of the ’728 patent include an “indoor network.” For example, claim 1 states that “the data communication terminal may be connected with the *indoor network* if the registered indoor system ID information is received and by connecting with the outdoor wireless internet network if the registered indoor system ID information is not received.”

51. I understand that the Court in the *AT&T* litigation construed “indoor network” as “a network that broadcasts system ID information to be received within the interior of a structure,” and that KAIFI proposes that same construction for this litigation. *See* Ex. 6 (AT&T Claim Construction Order) at 18. In my opinion, “indoor network” is instead better understood according to its plain and ordinary meaning.

52. Under KAIFI’s proposed construction, an indoor network can be any network “able to be received within an interior of a structure.” This is overinclusive. Practically any network is “able to be received within an interior of a structure,” including networks that no one would consider to be an “indoor network.” Nothing in KAIFI’s proposed construction precludes a cellular network from qualifying as an “indoor network.” For example, at the time of the

'728 patent, 2G and 3G cellular networks had signals that were strong enough “to be received within an interior of a structure.”<sup>9</sup> But a POSA would not have considered those networks to be “indoor networks” in the context of the '728 patent. Indeed, the '728 patent considers cellular networks to be “outdoor wireless internet networks,” not “indoor networks.” *See, e.g.*, '728 patent at 1:37–67, 6:34–43.

53. A POSA would have understood that an “indoor network” is not one that just is able to be received with an interior of a structure, but would additionally be one with a shorter broadcasting range that is meant for indoor structures, like homes and buildings.

54. Thus, in my opinion, “indoor network” is best understood according to its plain and ordinary meaning.

**D. “registered indoor system ID information” (claim 1)**

T-Mobile Proposed Construction	KAIFI Proposed Construction
No additional construction needed beyond construction of “indoor system ID information”	“indoor system ID information for which the data communication terminal has been granted access”

55. Claim 1 of the '728 patent requires “a data communication terminal that . . . stores *registered indoor system ID information*.” I understand that in the *AT&T* litigation, the parties agreed to construe this term as “indoor system ID information for which the data communication terminal has been granted access.” *See* Ex. 6 (AT&T Claim Construction Order) at 7. I disagree with this construction because, in my opinion, it is more confusing than helpful.

56. I understand that the parties have agreed that “indoor system ID information” means “information uniquely identifying the indoor network.” The question, then, is what “registered” adds. KAIFI’s proposed construction replaces the simple and readily understood

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<sup>9</sup> *See, e.g.*, Ex. 2 (GSM System Engineering) at 413–14 (“Due to greater system capacity, better in-building coverage, and probable lower cost, the GSM network will generally be used as a first preference wherever it is available.”).

term “registered” with “for which the data communication terminal has been granted access.” This is a lot of words for the jury to parse for a simple term like “registered.”

57. In my opinion, “registered” is a term that would readily be understood by a jury. The concept of “registration” is ubiquitous in life—registering for classes, registering a car, registering to vote, etc. The ’728 patent does not use “registered” in a unique or different sense. See ’728 patent at 8:20–23, 10:9–13, 11:42–47, 12:63–65.

58. Thus, in my opinion, no additional construction of “registered indoor system ID information” is needed beyond the construction of “indoor system ID information.”

I reserve the right to modify or supplement my opinions, as well as the bases for my opinions, including based on the nature and content of the documentation, data, proof, and other evidence or testimony that KAIFI or its experts may present, on any additional discovery or other information provided to me or found by me in this matter, or on further instructions or orders from the Court.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of March, 2021, in Hood River, Oregon.

  
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Peter Rysavy